

Figure 3 Q3b roots of closed-loop system

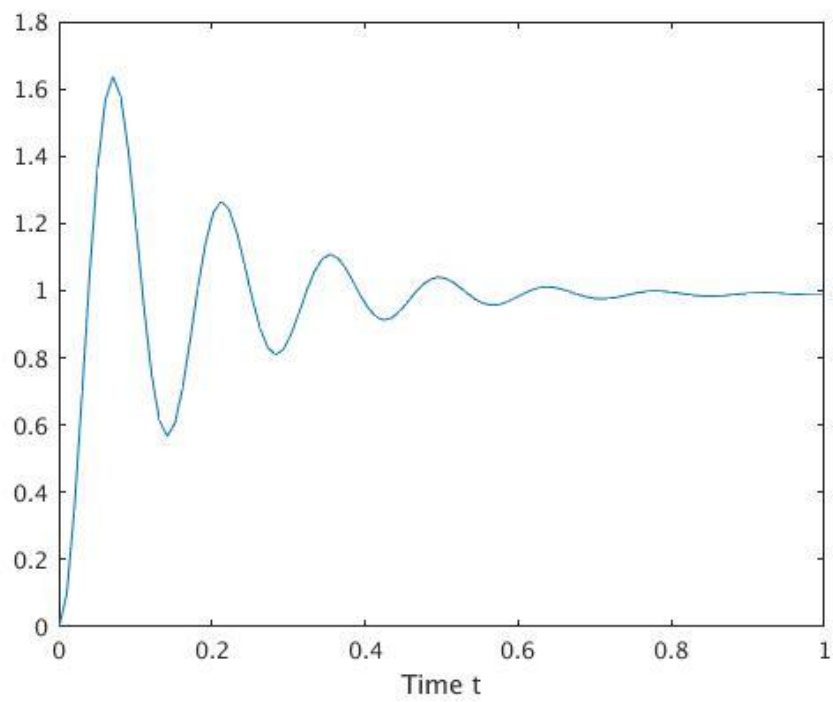


Figure 4 Q3b time response of the output for a step reference input with  $K=9.9$

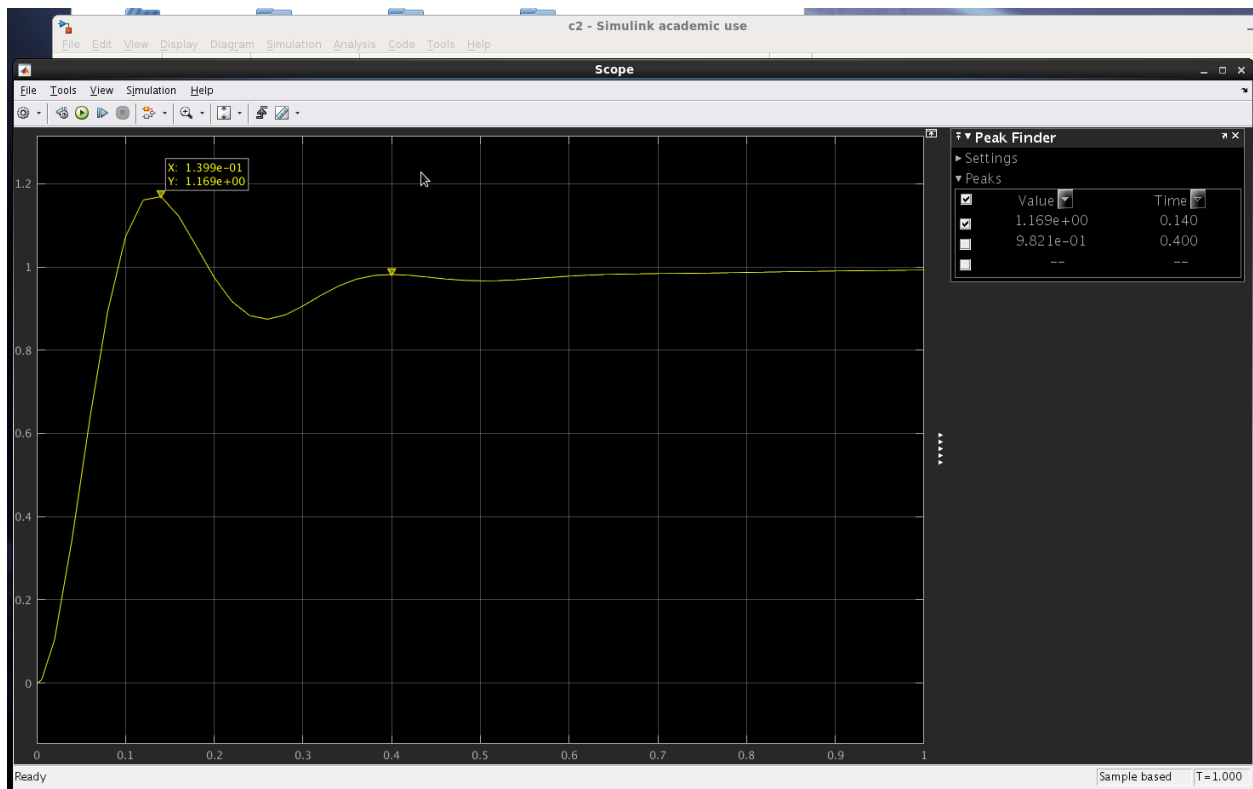


Figure 1 Q2c find  $K_1$

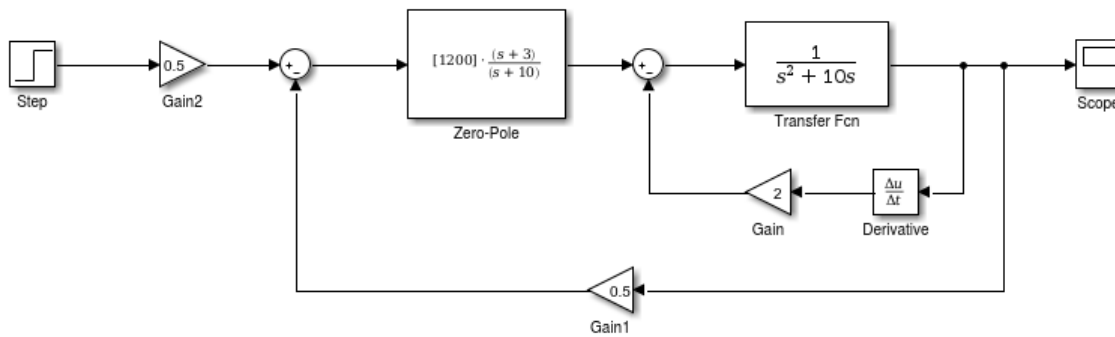


Figure 2 Q2c simulink model for finding  $K_1$

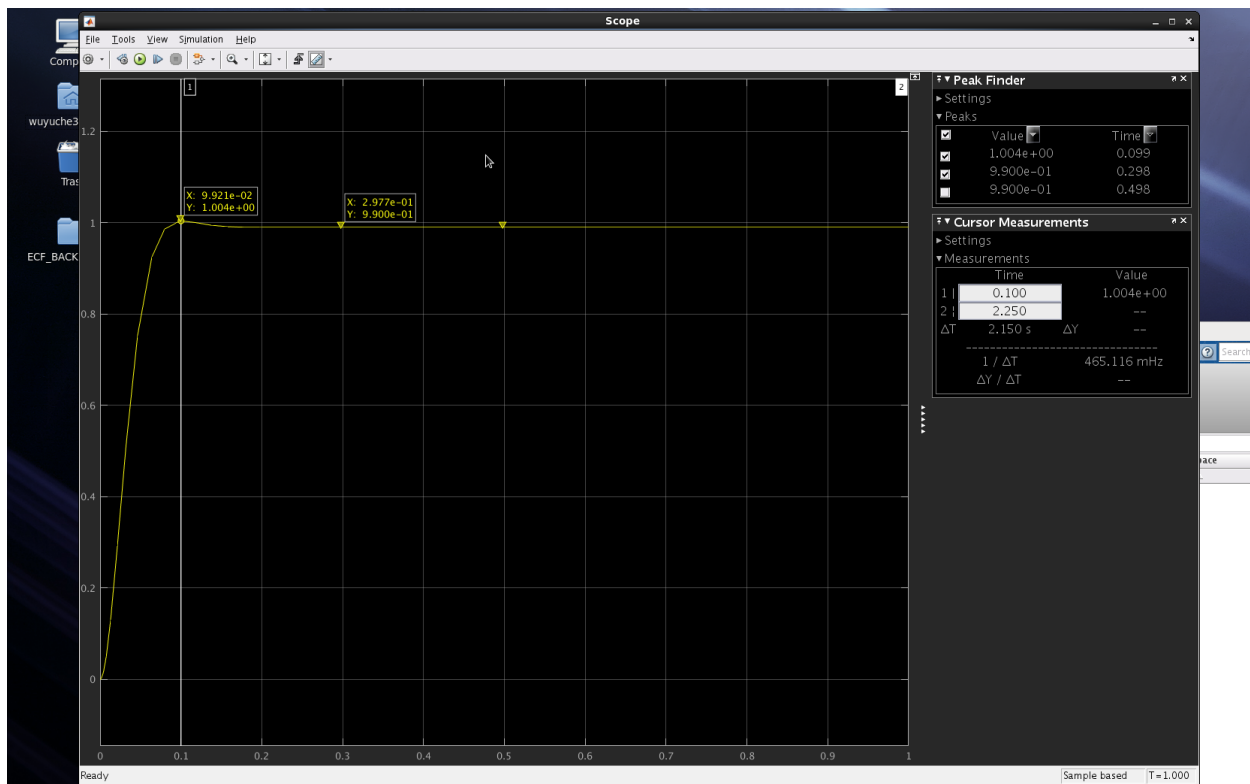


Figure 5 Q3d find values of kd and kp

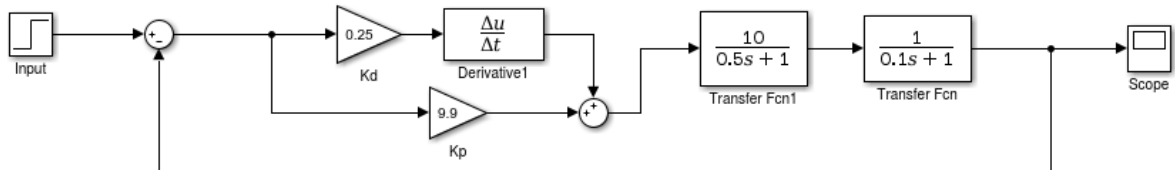


Figure 6 Q3d Simulink model for finding kd and kp